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ABSTRACT

Two research traditions in the study of learning and motivation are integrated for the study of adolescent behavior. One is concerned primarily with the normal functioning of adolescent society, the other with the design of reward structures to foster academic achievement. The literature covering the use of material incentives for motivating children and the importance of peer group organization in adolescent culture is surveyed. It is argued that these two considerations are especially relevant to lower-class adolescents, and the likely impact of a reward structure based upon an amalgam of these themes is explored. Specifically, it is suggested here that combining material inducements for achievement with a reward structure organized around peer groups can provide an effective strategy for motivating lower-class adolescents toward academic goals. (Author/AM)

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Raising Academic Motivation in Lower Class Adolescents:

A Convergence of Two Research Traditions

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ABSTRACT

This paper argues for the desirability of integrating two research traditions in the study of adolescent behavior. One is concerned primarily with the normal functioning of adolescent society, the other with the design of reward structures to foster academic achievement. Specifically, it is suggested that a combination of material inducements with a reward structure emphasizing peer group attainment can provide an effective strategy for motivating lower-class adolescents.

Raising Academic Motivation in Lower Class Adolescents: A Convergence of Two Research Traditions

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INTRODUCTION

Several hypotheses have been advanced in recent years to account for the low academic attainment by lower-class and, in particular, by lower-class Negro children.[1] Following the classification of these explanations used by Irwin Katz (1968), low achievement has been attributed to (a) the inadequacies of early socialization, in which childrearing practices are faulted or personality deficits of the parents are cited (Ausubel and Ausubel 1963; McClelland 1961; Bettelheim 1964); (b) an absence of language and sensory stimulation in lower-class homes (Hunt 1968); (c) conflict between minority and middle-class cultures, with emphasis on the irrelevancy of middle-class educational objectives to lower-class or ethnic values (Gans 1962:68; Riessman 1962; Cloward and Jones 1963); and to (d) the failure of predominately Negro schools to provide education of a quality commensurate to that offered in white middle-class institutions (Clark 1965).

The causes of low attainment are undoubtedly manifold. Nevertheless, depending upon which of the above explanations one stresses, his proposal for improving academic performance will differ. For example, were low achievement to be attributed primarily to personality traits which are acquired in early infancy and are afterwards resistant

to change, then interventions would have to be directed at the age of early socialization. Thus, expounding this view, Bettelheim disparages our investment in remedial school programs for Negro children and argues instead that "reform must be concentrated where it most matters--on the conditions of life at home..." (Bettelheim 1964:4).

Personality structure may well be an important determinant of low academic attainment by lower class children. However, it is by no means evident that the personality variables which are relevant to the learning process are immutable after infancy. Moreover, aside from the question of mutability, there is considerable evidence that personality deficits can be compensated for by alterations in the learning situation. I refer to the many studies which underscore the contribution of the social context and the reward structure to effective learning (Coleman 1965; McPartland 1969; Stevenson 1965; Marston and Kanfer 1963).

The model of motivation implicit in these investigations of the impact of situational variables on the learning process is associated with the work of John W. Atkinson. According to this model (Atkinson 1964:240-67), the motivation to achieve is a product of three factors: a stable personality characteristic of the individual (need-achievement), and two situational variables--the probability of success at the particular task, and the incentive value of success. In terms of this formulation it is evident that even if the personality underpinnings of academic motivation were weak, the motivation to achieve could be raised, and possibly substantially, by appropriate alterations of the learning context.[2] This model of motivation is also assumed in the present analysis.

The subject of this paper represents a confluence of two research traditions in the study of learning and motivation. One is primarily concerned with the normal functioning of adolescent society, the other with the design of reward structures to promote academic attainment. Specifically, it is suggested here that combining material inducements for achievement with a reward structure organized around peer groups can provide an effective strategy for motivating lower-class adolescents toward academic goals. In the following sections, the literature covering the use of material incentives for motivating children and the importance of peer group organization in adolescent culture is surveyed. It is argued that these two considerations are especially relevant to lower-class adolescents, and the likely impact of a reward structure based upon an amalgam of these themes is explored.

THE USE OF MONETARY REWARDS TO PROMOTE ACADEMIC ACHIEVEMENT

Behavior modification by means of a reinforcement schedule derives from the research of B.F. Skinner. In his view, "teaching may be defined as an arrangement of contingencies of reinforcement under which behavior [is] changed" (Skinner 1968:113). Commonly used reinforcers for scholastic performance include verbal and social approval, grades, and material rewards.

There is empirical evidence that a planned design of contingency reinforcement can lead to higher achievement than would normally occur in the classroom. This has been found with children of preschool and elementary school age (Baer and Wolf 1968), with high school adolescents (Martin, et al. 1967), with retarded, emotionally disturbed, and

culturally deprived children (Staats, et al. 1967; Clark and Walberg 1968), and with delinquent boys (Tyler and Brown 1968).

There is also evidence to suggest that the effectiveness of a particular reinforcer will vary with characteristics of the individual. In particular, age and social class effects have been reported and these results are relevant to the present discussion. With respect to age, Zigler and Kanzer (1962) have conjectured the existence of a developmental sequence in the relative potency of different reinforcers. With young children, tangible rewards are postulated to be most effective; with older youths, social rewards (expressions of affection or praise by an adult) and self-reinforcement (through internalizing achievement values and acquiring a capacity to adjust one's behavior to factual feedback on performance) become, successively, effective methods for motivating academic achievement. Although there have been some negative findings (McGrade 1966), studies of subject age and reinforcer effectiveness have generally supported this developmental progression (Rosenhan and Greenwald 1965; McCullers and Stevenson 1960; Lewis, Wall and Aronfreed 1963).

With respect to social class, the experimental evidence is consistent in the finding that lower-class children are more responsive to tangible rewards than to either social reinforcement or to the provision of factual feedback on performance (Douvan 1956; Terrell, Durkin, and Wiesley 1959; Zigler and deLabry 1962). Commenting on this literature in the context of discussing racial differences in attainment, Irwin Katz suggests that many Negro pupils are unable to sustain academic

effort without immediate external rewards. "Lacking a history of consistent yet selective approval of their intellectual strivings by parents and teachers, the children failed to acquire high performance standards and the capacity to enjoy their own attainments" (Katz 1968:164).

The main inference to be drawn from these studies is that while a developmental sequence appears to exist in the effectiveness of different reinforcers (progressing from concrete inducements to social reinforcement to self-reinforcement), this development is attenuated for lower-class children who often fail to shift from dependency upon material inducements to self-reinforcement. Material rewards, however, remain an effective reinforcer of academic achievement for lower-class children of all ages.

Parenthetically, a similar conclusion about the incentive value of tangible rewards for lower class children can be reached from a very different perspective. In the sociological literature, lower-class persons are characterized by such traits as a lack of impulse control, short temporal horizons, fatalism, and a preference for concrete rewards rather than abstract, intellectual ones (Lewis 1966:xlviii; Riessman 1962:28). If lower-class children are socialized into a culture which reinforces these characteristics, their greater receptivity to tangible inducements than to symbolic rewards such as school grades, and their difficulty with internalizing a capacity for self-reinforcement and regulation would be expected.

It is not even necessary to invoke a cultural explanation to account for many of the lower-class traits. Liebow (1967), Miller, Riessman, and Seagull (1968), among others, have suggested that lower-class life styles represent coherent adaptations to the conditions which confront

these individuals. Deferring gratification and investing in the future, for instance, may well be irrational if the future is perceived as precarious and unstable. For a child maturing in this environment, the acquisition of a lower-class perspective may be more a reflection of his having to cope with the same situation faced by his parents in an earlier decade, than a direct transmission of values from parent to child.

Irrespective of which explanation one accepts, the concerns of these children are certainly unsupportive of educational achievement. An orientation to immediate gratification and impulse following, a preference for material rewards, and (for boys) an emphasis on physical prowess are hardly values that are easily accommodated to academic motivation. Moreover, short temporal horizons blur the relationship between current scholastic attainment and some desired economic status in the future. For the black child, especially, disinterest in schooling may also result from the appearance of a low return on investment in education--a conclusion he might draw by observing how education has paid off, or failed to do so, for the adults he encounters daily.[3]

Confronted with this situation, several researchers (Baer and Wolf 1968:128-29; Effrat, Feldman, and Sapolsky 1969) have suggested that material inducements, in particular monetary rewards, be used to motivate academic achievement by children from lower-class homes. The use of cash rewards is attractive for several reasons. Unlike school grades, which are potent reinforcers only for children who already accept the goals of schooling, the value accorded to money is not contingent upon this prior socialization. For children from lower-class homes the utility of money is hardly problematic. Thus, rather than a program to

alter the values of children, a monetary reward scheme would enlist the established values of lower-class youths to channel their efforts toward educational goals. The process of undermining values, particularly when supported in peer culture, is a difficult task and not well understood. To design a reward structure in which academic achievement would be consonant with the concerns of these children is a much simpler affair. Apparently for this reason, there is growing interest in the use of tangible rewards in the classroom (N.Y. Times June 21, 1969:29; N.Y. Times July 25, 1970:22).

The purpose of monetary reinforcement would be to motivate lower-class children during the years in which it is difficult for them to perceive the returns from investing effort in schooling. To accomplish this task it would not be necessary that a change in educational values ever materialize; nor would it be vital that the children acquire a capacity for self-reinforcement or enjoy scholastic attainment although these responses would be welcome effects. If a student has been successfully "bribed" into achieving satisfactory grades during his elementary and early high school years, the operative reinforcer for academic achievement would presumably shift to the promise of other extrinsic rewards. Instead of being motivated by the small cash payments, he would perceive the possibility of considerable financial and status returns from completing high school and perhaps continuing his education. The objective of this program, then, would be to ensure that these alternatives are not foreclosed because of poor academic performance in earlier school years.

THE EFFECT OF PEER GROUP ORGANIZATION

However, while the above analysis may be tenable for pigeons or young children, an individual reward structure is unlikely to prove adequate for motivating adolescents in a classroom situation. Research on reinforcement processes has been carried out primarily by experimental psychologists, not by social psychologists or sociologists. This has meant that the reinforcement contingency has commonly been defined in terms of the individual student, without reference to the social setting in which learning takes place. Yet, by the late primary grades adolescents are embedded in a peer group society and are highly responsive to the norms of this culture (Boocock 1966:27-28).

For lower-class adolescents, peer society is even more pervasive than for middle-class youth (Gans 1962: 65-70, 242-45) and employs an elaborate system of inducements and sanctions to ensure conformity with its norms. As was inferred in the preceding section, the values which are central in this culture are commonly hostile toward academic concerns. Empirical results supporting this contention have also been reported by Hyman (1953:438) and Rosen (1956), among others. However, money is highly valued in peer culture, and this fact has led one group of researchers to suggest that, because of the financial payment for academic attainment, a student with a good school record would win his peer's approval. "This approval would provide further support and reward for his performance and aspirations. Thus, the material incentives program could not only reduce the conflict between the school and peer groups and remove a major social obstacle to an individual's educational advancement but actually mobilize existing values to promote academic achievement" (Effrat, Feldman, and Sapolsky 1969:109.) However, despite the

importance of money in lower-class peer society, there are compelling reasons for questioning whether an individual reward arrangement would function in the manner suggested.

There is evidence from other social settings where payment is in exchange for achievement to suggest that peer pressure may actually operate to depress the level of attainment, at least for some individuals. I refer to the many investigations of industrial work groups since the classic study by Roethlisberger and Dickson (1939) which first reported on the strategic role played by informal groups in controlling productivity. Babchuk and Goode (1951), Roy (1952), and Seashore (1954) all report that group cohesion is associated with conformity to group standards and, thereby, with low variance in productivity. Extrapolating to the classroom, it is likely that peer groups would operate to prevent a large disparity in individual payments from developing, a situation which would undermine group solidarity.

Although informal groups operate to reduce variability in output among individuals, Seashore (1954) reports that one cannot infer the level of the group standard from this fact alone. It is therefore conceivable that adolescent peer groups would encourage conformity to a high level of achievement since this would ensure greater rewards to all members. However, because of differences in individual abilities, the standard which becomes established would have to be below the achievement potential of the most capable, if conformity to a group standard is to be at all possible. At best, an individual reward structure would enlist peer pressure to strongly motivate the least capable students and weakly motivate youths of average abilities, but it would discourage outstanding performances by the most capable.[4]

The above argument derives from one expected concern of adolescent peer groups, namely, to reduce the income variation among individuals (presumably by limiting the variation in scholastic attainment) in order to retain group cohesion. A second concern of peer groups involves the maintenance of status consistency among the members, and this raises the possibility of another undesired adaptation. The receipt of cash payments by individuals will confront a peer group with the problem of incorporating a new status dimension (an individual's rank with respect to financial gain) into its stratification system. Studies of small group processes suggest that the likely adaptation to a diversity of status rankings is to promote consistency among members in their several rankings. For example, commenting on Street Corner Society (Whyte 1943), George Homans (1950) writes:

> "[Alec] could do very well in bowling, but in other activities he did not conform very closely to group standards. . . . If his behavior had improved in these respects, his social rank might then have risen, and his scores in intraclique bowling competition might have been allowed to go up (p. 180, emphasis added).

> "Clearly the group, and particularly the leaders, had a definite idea what a man's standing in bowling ought to be, and this idea had a real effect on the way he bowled. . . . When a follower threatened to better his position . . . the boys shouted at him that he was lucky, that he was 'bowling over his head.' The effort was made to persuade him that he should not be bowling as well as he was, that a good performance was abnormal for him" (pp. 167-68, emphasis added).

This reasoning suggests that, to the extent individual variation in reward is permitted to occur, group norms would regulate the relative

attainments of the students, inhibiting much of the impact which is expected from cash inducements. Considering the importance of physical prowess and athletic ability in lower-class adolescent culture, there is little reason to expect academic ability to be positively correlated with status rank in the peer group.

Aside from these matters, an individual reward scheme would have two drawbacks. First, although possession of financial means may confer prestige upon an individual within the peer group, it is in no way in the interest of a student that another be successful, irrespective of whether performance is evaluated on a comparative basis or with respect to some standard. While this would not necessarily result in interference with other students, neither would it lead to helping behavior. Second, one by-product of an individual reward scheme is that it becomes evident to some that they are destined to consistently fail. Formerly, poor grades carried little personal significance since school performance was of little consequence. Once cash payments are linked to grades, however, failure becomes a matter of concern, and an arrangement which rewards students on a basis of individual attainment is therefore likely to increase the withdrawal of those who are less able to compete successfully.

THE DESIRABILITY OF A GROUP BASED REWARD STRUCTURE

The difficulties that have been raised with respect to rewarding adolescents on an individual basis do not detract from the motivational potential of money for these children. Rather, the problem is to design a reward structure which would not threaten peer group solidarity and,

ideally, would enlist peer pressures in support of academic achievement by all students. There is reason to believe that a reward structure in which cash payments are made to groups rather than to individual students would meet these objectives. A possible scenario under such an arrangement would be the following: In each school grade, students would be divided into groups of three, four, or five children, either by teacher assignment or following the expressed preferences of the students--the precise manner of constituting the groups would be one of several parameters to be experimentally investigated. The groups would then compete for cash rewards, against one another or perhaps with respect to some uniform standard of performance.

The crucial feature of this proposal is that the rewards would be disbursed to groups according to the average level of attainment by their members. The likely impact of group reinforcement on individual performance can be inferred from the literature on industrial productivity. Referring to the Scanlan Plan, an arrangement whereby the entire work force shares in the profits which result from a reduction in labor costs, Roger Brown (1965:472) writes:

> "Formerly, a man who expressed his achievement motivation by working harder endangered his bonds of solidarity with his co-workers. . . . [Now] no matter where the saving was accomplished everyone in the force benefits from it and so a man who tries to achieve an improvement helps the entire group rather than himself at the expense of the group."

Or, quoting from Homans (1950:300) on the topic of increasing the work rate:

> For industrial management, therefore, the problem of increasing output is seldom one of increasing the output of

> individuals but is usually one of raising the standards of groups. Moreover, the group must accept the standard; it must become a real group norm before group controls will come into play to support it."

The manner by which the cash payments would be distributed among the members of a successful group is another parameter for investigation. The total payment could be divided equally among all students, or the internal disbursement could be left for the group to decide. Probably the most effective arrangement would be one which permits a winning group some discretion over the internal allocation, enabling it to discipline and reward each member according to the value of his contribution or in a manner that is consistent with other dimensions of status.

In comparison to rewarding students for their individual performances, the merits of group reinforcement would therefore be the following:

(1) When students are rewarded according to individual attainment, peer solidarity is likely to be weakened. To counter this threat, adolescent groups may adapt to the reward structure in a manner which is undesirable considering the motivational intent of the program. By contrast, rewards which are contingent upon group performance would not be antagonistic to solidarity since all members would share in the common objective.

(2) In addition to not threatening peer cohesion, there is reason to expect that peer pressures would encourage academic achievement. High individual attainment would be contributory to group goals since the average score for a group, and hence its probability of being successful,

would be raised. It would even be in the interest of a group to tutor its academically weaker members, an adaptation which could not be expected under an individual reward scheme.[5]

(3) The problem of coping with failure would be less severe under group reinforcement. A group reward structure would soften the impact of failure since the responsibility would be diffused among all members and not appear to be the consequence of a single student's performance. In fact, an opportunity to participate in a winning effort and realize that one has contributed to this outcome could be given to weaker students under group reinforcement. One experimental design might be to reassign students and rebalance the groups after each distribution of rewards, thereby reducing the competitive advantage of the previously successful.

Group-based competition for the purpose of stimulating academic achievement is not entirely untried in the school context, although it would be an innovation in this country. A reward scheme which is designed to enlist peer pressure to motivate and control students has been in use for many years in Russia. Describing the principles of Soviet education, Urie Bronfenbrenner (1962:56) writes:

> "[The] desired behavior is motivated through competition between groups rather than between individuals; behavior is judged in terms of its implication for the achievement and reputation of the group; and rewards and punishments are given on a group basis so that all members of the group stand to gain or lose from the actions of each individual."

While Soviet education does not employ monetary inducements and relies upon school grades for reinforcement purposes, the reward structure

is otherwise remarkably similar to the one proposed here. I am not aware of any evaluation of Russian education with respect to motivating alienated or lower class children. Such information would certainly be relevant for assessing the likely impact of a group reward program.

James S. Coleman (1965) has also urged replacement of the present structure of individual rewards by an arrangement which emphasizes inter-group competition. Coleman came to this view by comparing the different orientations of peer groups toward outstanding individual performance, according to whether this occurs on the athletic field or in the classroom. With respect to academic subjects, achievement by one student is punishing to others since "grades are almost completely relative, ranking students relative to others in their class. Thus, extra achievement by one student not only raises his position but lowers the positions of others" (Coleman 1965:77). By contrast, superior performance on the athletic field rewards the entire school, not just the individual, and a student's peers therefore encourage, rather than restrain, efforts to achieve in athletics.

The analysis of reward structures that is developed in this paper parallels Coleman's work, but my proposal for motivating lower-class children is different from the policy recommendation which he makes. Extrapolating from the athletic context, Coleman proposes an introduction of inter-school and intramural tournaments, projects, and games in academic areas--what he calls "scholastic fairs"--in which competition would be between schools or between classes, not between individuals. Altering the reward structure in this manner would reduce "the present interpersonal competition for grades" (Coleman 1965:84) and thereby relieve peer group pressure against the "curve raiser."

The reason for the different policy recommendations stems from our starting from different assumptions as to the academic interests of the children. Coleman assumes that the students are vitally concerned with school grades. The fact that they attempt to restrain superior performance and keep grades within a range that can be attained by the majority testifies to the importance which grades hold for them. Coleman, therefore, is addressing the problem of altering a reward structure which is dysfunctional because it restrains individual attainment, a concern which is more common to middle-class schools than to lower-class institutions.

In schools which serve predominantly lower-class children, the assumption that grades carry intrinsic value for most youths cannot be made. For example, Gans (1962:132) reports that a majority of children in the West End (in Boston) displayed little interest in learning, and many were waiting only to reach the legal age to leave school. The proposal that is developed here therefore assumes that school grades must first be made relevant for the children. This is the purpose of linking academic achievement to monetary rewards. Afterwards, once grades are salient, our analysis of the merits of group reinforcement in comparison with individual competition follows Coleman's discussion.

CONCLUSIONS

While competent and sensitive teaching may be the preferred manner for motivating educational achievement, the quality of teaching in many lower-class schools is too variable to provide a basis for educational policy. This is not intended to detract from the accomplishments of those few teachers who have succeeded in establishing rapport with minority and

economically disadvantaged children, and arousing their intellectual curiosity. However, such ability seems to be an attribute of rare individuals, not a dependable characteristic of school systems. What is required is a motivational apparatus which will operate irrespective of variations in teacher quality, so the incentive for learning would not be highly dependent upon this problematic attribute.

One way in which schooling can be made more rewarding is by revising educational curricula to make the subject matter more relevant to the children. Much effort is currently being devoted to this activity, especially with respect to the needs of black children, and these programs should have a beneficial impact on academic motivation. A second approach would be to devise a reward structure which would make achievement consistent with the existing values of lower-class children. It is argued here that a combination of monetary inducements with group-based competition can provide such a reward structure.

Cash payments make attractive inducements since money is highly valued by poor children. Group-based competition for cash rewards would identify the interests of the peer group with the private concerns of the individual student. Under this arrangement, peer pressure can be expected to encourage individual attainment and foster an interest in mutual assistance and cooperation. Moreover, inter-group competition would reduce the demoralizing effect of failure, and probably also reduce the influence of teacher expectations on student performance, a theme whose importance has recently been stressed by Rosenthal and Jacobson (1968).[6]

Clearly, a great many parameters will need to be investigated in connection with this proposal. Some obvious questions concern the frequency of reinforcement, group size,[7] the manner of constituting the groups, the amount of the reward, the mechanics of evaluating student performance, whether performance relative to other groups or with respect to some absolute standard would be a more effective criterion, and the percentage of groups which would receive rewards if relative group performance were to determine success. Some of the most important considerations involve the interactions between these design parameters and the age of the student. For example, the frequency of payment would probably have to be greater for younger students, though the amount of the reward could probably be less.

A related consideration concerns the definition of the target population. In terms of age, the motivational problem appears to be one of stimulating academic interest in students from the middle primary to the middle high school grades. Earlier than the fifth grade, peer group control over behavior is modest in comparison with the influence exerted by adult authority figures--parents and teachers (Werthman 1969: 622). Later than the second year of high school, if a student has been successfully "conned" into achieving high grades during the preceding years, he can probably be motivated by the prospect of other extrinsic rewards--a good job or college.

A second constituency which must be considered in any proposal for educational reform consists of the teachers' unions and educational bureaucracies. In my opinion, a group-based reward structure could be integrated into the existing educational system with a minimum of

organizational dislocation. Teachers would not have to acclimate to a learning-machine or gaming technology,[8] nor would the race of the teacher be material. Instead, the reward structure would function to make the student more responsive in the classroom since the teacher would now be supplying the information necessary for a group's success.

FOOTNOTES

[1]It is difficult to sort out racial, ethnic, and class factors in many of these studies. Explanations which emphasize "cultural deprivation" or "culture conflict" may address class differences as much as racial or ethnic ones (cf. Herbert Gans [1962:229-30] on working class culture). Likewise, many of the studies which compare Negro and white children do not consider the ethnicity of the white child. This essay emphasizes class differences although some of the studies that are surveyed compare Negro (lower-class) children with white (middle-class) ones.

[2]Given the multiplicative character of the relation, one must assume that the personality component exceeds zero, if this minimum value is considered to be attainable.

[3]Figures on the return from investment in human capital are subject to diverse and conflicting interpretations. Education does have a payoff for Negroes in the sense that a black person can expect higher earnings from additional schooling, yet the return per year invested is less than for a white individual. In 1963, for males who attended only elementary school, Negro income was 73 percent of white income; for high school and college graduates the respective figures were 68 and 60 percent. With respect to occupational status, 20 percent of non-white male high school graduates were laborers; only 4 percent of white male high school graduates were in this occupational category. Data are from Rashi Fein (1966).

[4]Note that this contention does not depend upon whether the rewards are disbursed on a competitive basis or with respect to some standard of achievement. Although the latter arrangement would mean that one student's success does not detract from the financial opportunity of another, the variation in payments among students would still threaten group solidarity. In industrial settings, restrictive output norms have been observed in work groups where the men are not in competition with one another and all could simultaneously earn higher wages if individual output were raised (Babchuk and Goode, 1951). Effrat, et al. (1969: 108) suggest that "[a student] be rewarded for working at his own capacity" rather than judged relative to others or with respect to some uniform standard. However, this arrangement would result in a Balkanization of the reward structure. Students would find themselves subject to particularistic criteria, with a level of performance which qualifies one for a cash payment denying this reward to another. In this circumstance notions of equity would be enormously difficult to maintain.

[5]Morton Deutsch (1953) examined the effect of assigning an identical grade to each student in a group that was working on a common problem. He reports that the members aided one another under this arrangement whereas they impeded one another when grading was in terms of individual performance.

[6]Rosenthal and Jacobson (1968) report that teacher expectations in regard to student performance often become translated into "self-fulfilling prophesies"--students attain higher grades when more is expected of them, lower grades when less is expected (also see Davidson

and Lang [1960] for similar findings). Since the criteria upon which teachers base their expectations are often educationally irrelevant, such as the race of a student, it would seem desirable to reduce the impact of these expectations.

[7]One experimental treatment could use groups of size one to examine performance under an individual reward arrangement.

[8]A recent survey of experimental programs which use teaching machines (Ottinger 1969) concludes that the use of hardware actually makes the educational process more rigid.

REFERENCES

Atkinson, John W. An Introduction to Motivation. Princeton: D. Van Nostrand, 1964.

Ausubel, D.P., and Ausubel, Pearl. "Ego Development Among Segregated Negro Children." In A.H. Passow (ed.) Education in Depresses Areas. New York: Bureau of Publications, Teachers College, Columbia University, 1963.

Babchuk, Nicholas, and Goode, William J. "Work Incentives in a Self-Determined Group," American Sociological Review, 16 (1951), 679-87.

Baer, Donald M. and Wolf, Montrose, M. "The Reinforcement Contingency in Pre-School and Remedial Education." In Robert D. Hess and Roberta M. Bear, Early Education. Chicago: Aldine, 1968.

Bettelheim, B. Review of B.S. Bloom's "Stability and Change in Human Characteristics," New York Review of Books, 3 (Sept. 10, 1964).

Boocock, S.S. "Toward a Sociology of Learning: A Selective Review of Existing Research," Sociology of Education, 39 (1966), Winter, 26-32.

Bronfenbrenner, Urie. "Soviet Methods of Character Education: Some Implications for Research," Religious Education (Research Supplement), No. 57 (July 1962).

Brown, Roger. Social Psychology. New York: Free Press, 1965.

Clark, C.A., and Walberg, H.J. "The Influence of Massive Rewards on Reading Achievement in Potential Urban School Dropouts," American Educational Research Journal, 5 (1968).

Clark, K.B. Dark Ghetto. New York: Harper and Row, 1965.

Cloward, R.A., and Jones, J.A., "Social Class: Edcuational Attitudes and Participation." In A.H. Passow (ed.), Education in Depressed Areas. New York: Bureau of Publications, Teachers College, Columbia University, 1963.

Coleman, J.S. "Academic Achievement and the Structure of Competition." In Adolescents and the Schools. New York: 1965.

Davidson, Helen H., and Lang, Gerhard. "Childrens Expectation of Their Teachers' Feelings Toward Them Related to Self-Perception, School Achievement, and Behavior," Journal of Experimental Education, 29 (Dec. 1960), 107-118.

Deutsch, Morton. "The Effects of Cooperation and Competition upon Group Process." In D. Cartwright and A. Zander (eds.), Group Dynamics. Evanston: Row Peterson, 1953, 319-353.

Douvan, Elizabeth. "Social Status and Success Striving," Journal of Abnormal and Social Psychology, 52 (1956), 219-223.

Effrat, Andrew; Feldman, Roy.E.; and Sapolsky, Harvey M. "Inducing Poor Children to Learn," The Public Interest, No. 15, Spring (1969).

Fein, Rashi. "An Economic and Social Profile of the Negro American." In Talcott Parsons and Kenneth B. Clark (eds.), The Negro American. Boston: Beacon Press. 1966, 102-133.

Gans, Herbert J. The Urban Villagers. New York: Free Press, 1962.

Homans, George C. The Human Group. New York: Harcourt, Brace and World, 1950.

Hunt, J. McV. "Environment, Development and Scholastic Achievement." In M. Deutsch, A. Jensen & I. Katz (eds.), Social Class, Race and Psychological Development. New York: Rinehart and Winston, 1968.

Hyman, H.H. "The Value Systems of Different Classes: A Social Psychological Contribution to the Analysis of Stratification." In R. Bendix and S. Lipset (eds.) Class, Status and Power. Glencoe: Free Press, 1953, 426-442.

Katz, Irwin. "The Socialization of Academic Motivation in Minority Group Children." In D. Levine (ed.), Nebraska Symposium on Motivation, 1967, Lincoln: U. of Nebraska Press, 1968.

Lewis, M.; Wall, A.M.; and Aronfreed, J. "Developmental Change in the Relative Value of Social and Non-Social Reinforcement," Journal of Experimental Psychology, 66 (1963), 133-138.

Lewis, Oscar. La Vida. New York: Alfred A. Knopf, 1966.

Liebow, Elliot. Tally's Corner. Boston: Little, Brown and Co., 1967.

Marston, A.R., and Kanfer, F.H. "Human Reinforcement: Experimenter and Subject Controlled," Journal of Experimental Psychology, 66 (1963), 91-94.

Martin, M.; Schwyhart, K.; and Wetzel, R. "Teaching Motivation in a High School Reading Program," Journal of Reading, 11 (1967).

McClelland, D.C. The Achieving Society. New York: Van Nostrand, 1961.

McCullers, J.C. and Stevenson, H.W. "Effects of Verbal Reinforcement in a Probability Learning Situation," Psychological Reports, 7 (1960), 439-445.

McGrade, Betty J. "Effectiveness of Verbal Reinforcers in Relation to Age and Social Class," Journal of Personality and Social Psychology, 4 (1966), 555-560.

McPartland, James. "The Relative Influence of School and of Classroom Desegregation on the Academic Achievement of Ninth Grade Negro Students," Journal of Social Issues, 25 (1969).

Miller, S.M.; Riessman, Frank; and Seagull, Arthur A. "Poverty and Self-Indulgence: A Critique of the Non-Deferred Gratification Pattern." In Louis A. Ferman, Joyce L. Kornbluh, and Alan Haber (eds.), Poverty in America. Ann Arbor: University of Michigan Press, 1968, 416-432.

New York Times. "Rewards System Helping the Retarded Here to Read," June 21, 1969, 29.

_____. "School 'Percentomania,'" July 25, 1970, 22.

Ottinger, Anthony G. Run Computer Run, Cambridge: Harvard University Press, 1969.

Riessman, F. The Culturally Deprived Child. New York: Harper, 1962.

Roethlisberger, F.J., and Dickson, W.J. Management and the Worker. Cambridge: Harvard University Press, 1939.

Rosen, Bernard C. "The Achievement Syndrome: A Psycho-cultural Dimension of Social Stratification," American Sociological Review, 21 (April 1956), 203-211.

Rosenhan, D., and Greenwald, J.A. "The Effects of Age, Sex, and Socio-Economic Class of Responsiveness to Two Classes of Verbal Reinforcement," Journal of Personality, 33 (1965), 108-121.

Rosenthal, Robert, and Jacobson, Lenore. Pygmalion in the Classroom. New York: Holt, Rinehart and Winston, 1968.

Roy, Donald. "Quota Restriction and Goldbricking in a Machine Shop," American Journal of Sociology, 57 (1952), 427-42.

Seashore, S.E. Group Cohesiveness in the Industrial Work Group. Ann Arbor: University of Michigan Survey Research Center, Pub. No. 14, 1954.

Skinner, B.F. The Technology of Teaching. New York: Appleton-Century-Crofts, 1968.

Staats, A.W.; Minke, K.A.; Goodwin, W.L; and Landeen, J. "'Motivational Learning' Reading Treatment with Additional Subjects and Instructional Technicians." Technical Report No. 22, Wisconsin Research and Development Center for Cognitive Learning, 1967.

Stevenson, H.W. "Social Reinforcement of Children's Behavior." In L.P. Lipsitt and C.C. Spiker (eds.), Vol. 2, Advances in Child Development and Behavior. New York: Academic Press, 1965.

Terrell, Jr., G.; Durkin, K.; and Wiesley, M. "Social Class and the Nature of the Incentive in Discrimination Learning," Journal of Abnormal and Social Psychology, 59 (1959), 270-272.

Tyler, V.O., and Brown, G.D. "Token Reinforcement of Academic Performance with Institutionalized Delinquent Boys," Journal of Educational Psychology, 59 (1968).

Werthman, Carl. "Delinquency and Moral Character." In Donald R. Cressey and David A. Ward, Delinquency, Crime and Social Processes. New York: Harper & Row, 1969.

Whyte, William F. Street Corner Society. Chicago: University of Chicago, 1943.

Zigler, E., and deLabry, J. "Concept-Switching in Middle-Class, Lower-Class and Retarded Children," Journal of Abnormal and Social Psychology, 65 (1962), 267-272.

Zigler, E., and Kanzer, P. "The Effectiveness of Two Classes of Verbal Reinforcers on the Performance of Middle-Class and Lower-Class Children," Journal of Personality, 30 (1962), 157-165.